Species Tag:	40002	Species Name:	NaOH
Version:	1		Sodium hydroxide
Date:	Aug. 1987		
Contributor:	R. L. Poynter		
Lines Listed:	91	Q(300.0)=	498.884
Freq. (GHz) <	2201	Q(225.0)=	374.025
Max. J:	91	Q(150.0)=	249.345
LOGSTR0=	-6.3	Q(75.00)=	124.767
LOGSTR1=	-8.0	Q(37.50)=	62.532
Isotope Corr.:	0.0	Q(18.75)=	31.427
Egy. (cm^{-1}) >	0.0	Q(9.375)=	15.882
μ_a =	1.0	A=	
μ_b =		B=	12567.0590(120)
μ_c =		C=	

The measured lines were taken from E. F. Pearson and M. B. Trueblood, 1973, Astrophys. J. Lett. Ed. **179**, L146, and P. Kuipers *et al.*, 1976, Chem. Phys. **15**, 457. Because no dipole moment measurement has been reported, we assumed a value of unity in our calculation. Two theoretical estimates have been published: N. G. Rambidi, Yu. G. Abashkin, and A. I. Dement'ev, 1984, Russ. J. Inorg. Chem. **29**, 12–22, and G. A. Long, J. F. Capitani, and L. Pedersen, 1983, J. Mol. Struct. **105**, 229–230. Of these, the Rambidi *et al.* value is closer to our estimate of 6.63 Debye with an estimated error of maybe 1 Debye, which is based upon extrapolations from the dipole moments of Li, Cs, and Na fluorides and the Cs and Li hydroxides. The Rambidi *et al.* value is 6.706 debye, while the Long *et al.* value ranges between 6.30 and 5.42 debye, depending on the basis set used in their calculations. The line intensities should be multiplied by a factor of about 44 to get something closer to the right value. The theoretical calculations suggest that this molecule is linear. A measurement is needed.